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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,989	02/06/2004	Robert K. Barr	52183	7098

53884 7590 06/13/2008

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EXAMINER	
JOHNSON, CONNIE P	

ART UNIT	PAPER NUMBER
1795	

MAIL DATE	DELIVERY MODE
06/13/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/773,989	BARR ET AL.	
	Examiner	Art Unit	
	CONNIE P. JOHNSON	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-8,10-14 and 16-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-8,10-14 and 16-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The remarks and amendment filed 12/13/2007 have been entered and fully considered.

2. Claims 1-2, 4-8, 10-14 and 16-20 are presented.

3. In view of the appeal brief filed on 12/13/2007, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weed et al., U.S. Patent Publication No. 2002/0064728 A1 in view of Kuchta, U.S. Patent No. 5,112,721 in view of Kaufman, U.S. Patent No. 6,547,397 B1 and further in view of Applicant's admission.

Weed teaches a process of making an imaging composition comprising applying a photoimageable composition to a substrate and imagewise exposing the composition to actinic radiation (page 7, [0099]). The photoimageable composition comprises photosensitizing dyes that undergo color change upon irradiation (Weed, [page 7, 0099]). By applicant's own admission on page 6 of the specification, the laser power is conventionally 5mW or less. In addition, the photoimageable composition is combined with other components such as a quinone redox couple comprising 9,10-phenanthrenequinone and an acyl ester of triethanolamine (page 6, [0090]). The combination of these components forms an effective color forming composition when exposed to radiation. The difference between the reference and the invention is that Weed does not teach that the photoimaging composition comprises a cyclopentanone based conjugated photosensitizer nor that a 3D image is projected onto the photoimaging composition with a laser.

However, Kuchta, in analogous art, teaches a cyclopentanone based conjugated sensitizer used in imaging compositions. Sensitizers are known as dyes and provide color in imaging compositions and facilitate the photoinitiation process (See Kuchta, column 1, lines 17-30). In column 6, lines 5-19, Kuchta specifically teaches cyclopentanone based conjugated sensitizers in the imaging composition. Weed teaches the use of several different types of dyes suitable for the invention including dyes, which can undergo a change in color upon irradiation. Kuchta's compounds fit this description. It would have been obvious to one of ordinary skill in the art to use the compounds of Kuchta in the method of Weed because Weed's process requires dyes, which are radiation sensitive, and undergo color change with laser irradiation.

Further, Kaufman teaches a laser projector for projecting a 3D image onto an object (see abstract). Kaufman teaches figures 1 and 8 as a laser projector and range finder, respectively. Applicant also discloses figures 1 and 2 of the invention as a laser projector and range finder. Kaufman teaches that the 3D imaging system is used to accurately identify where to place the 3D image on the workpiece (col. 1, lines 33-51). Therefore, it is expected that the 3D image would be selectively placed on the imaging composition by using a laser projector with a range finder. Therefore, it would have been obvious to one of ordinary skill in the art to use the 3D imaging system of Kaufman on the imaging composition of Weed to accurately position the 3D image onto the imaging composition.

6. Claims 11-14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weed et al., U.S. Patent Publication No. 2002/0064728 A1 in view of Kaufman, U.S. Patent No. 6,547,397 B1 in view of Kangas et al., U.S. Patent No. 5,563,023 and further in view of Applicant's admission.

Weed teaches a process of making an imaging composition comprising applying a photoimageable composition to a substrate and imagewise exposing the composition to actinic radiation (page 7, [0099]). The photoimageable composition comprises photosensitizing dyes that undergo color change upon irradiation (Weed, [page 7, 0099]). By applicant's own admission on page 6 of the specification, the laser power is conventionally 5mW or less. In addition, the photoimageable composition is combined with other components such as a quinone redox couple comprising 9,10-phenanthrenequinone and an acyl ester of triethanolamine (page 6, [0090]). The combination of these components forms an effective color forming composition when exposed to radiation. The difference between the reference and the invention is that Weed does not teach that a 3D image is projected onto the photoimaging composition with a laser nor that the photoimaging composition has a releasable adhesive on the opposite side of the substrate.

However, Kaufman teaches a laser projector for projecting a 3D image onto an object (see abstract). Kaufman teaches figures 1 and 8 as a laser projector and range finder, respectively. Applicant discloses figures 1 and 2 of the invention as a laser projector and range finder. Figures 1 and 8 of Kaufman are the same as figures 1 and 2 of the invention. Kaufman teaches that the 3D imaging system is used to accurately

identify where to place the 3D image on the workpiece (col. 1, lines 33-51). Therefore, it would have been obvious to one of ordinary skill in the art to use the 3D imaging system of Kaufman on the imaging composition of Weed to accurately position the 3D image onto the imaging composition.

Kangas, in analogous art, teaches making photoimageable elements having a photosensitive composition (imaging composition) on a substrate which has an adhesive applied to the opposite side (see Kangas' claim 9 and column 2, lines 8-12). Further, Kangas teaches photosensitive polymers that are sensitive to light in the visible and UV range. The visible range is 400nm to 800nm. Kangas teaches the photosensitive compounds as acrylate oligomers that form polymers when exposed to radiation (col. 3, line 63). Therefore, the photosensitive polymers are sensitive to light in the range of 300 to 600nm as claimed. It would have been obvious to one of ordinary skill in the art to use an adhesive on the opposite side of the substrate with releasing ability in order to place the image on an additional workpiece if required.

7. Claims 5-8, 10, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman, U.S. Patent No. 6,547,397 B1 in view of Parker et al., U.S. Patent No. 6,618,174 B2 in view of Weed et al., U.S. Patent Publication No. 2002/0064728 A1 in view of Kuchta, U.S. Patent No. 5,112,721 and further in view of Applicant's admission.

Kaufmann teaches a 3-D imaging system, measuring the distance between the projector and a sensor in the workpiece, positioning the workpiece and applying energy to the imaging composition. Figure 1 of Kaufman is the same as figure 1 of the

application. The range finding system determines the distance between the projector and a sensor as described in column 8. The optical signal is converted to a digital signal and analyzed by the controller module, element 210, which is the same as applying an algorithm to the results (col. 8, lines 65-67 and col. 9, lines 1-30). As shown in Figure 1, Kaufman teaches the energy beams from the projector fall on sensors and on an internal triangular shape of the workpiece which is not identified in Figure 1. However, because the energy beams fall on this area, it would have been obvious to one of ordinary skill in the art that this is the area to be imaged and must have an imaging composition thereon. Kaufman does not teach a step of removing unwanted portions of the imaging composition from the workpiece. None the less, it would have been obvious to one of ordinary skill in the art to remove unwanted portions because the imaging composition comprises a plastic film and therefore would easily perforate to remove unwanted portions. Kaufman does not teach applying an imaging composition to a workpiece and applying the 3D imaging composition having a cyclopentanone based compound with an amount of energy to affect color change. Further, Kaufman does not specifically teach drilling holes at the indicators for joining fasteners to the workpiece.

However, Parker teaches a method of making a pattern on a workpiece. The pattern may be a three dimensional holographic pattern (col. 2, lines 37-45). The method comprises drilling holes into the workpiece by photoablation to form apertures (col. 8, lines 33-39). It would have been obvious to one of ordinary skill in the art to drill holes in the workpiece of Kaufman with a laser because Parker teaches laser ablating

the workpiece to form apertures in thin membranes. The apertures in thin membranes are representative of placing holes in the workpiece, by which fasteners can be applied.

Weed teaches a process of making an imaging composition comprising applying a photoimageable composition to a substrate and imagewise exposing the composition to actinic radiation (page 7, [0099]). The photoimageable composition comprises photosensitizing dyes that undergo color change upon irradiation (Weed, [page 7, 0099]). By applicant's own admission on page 6 of the specification, the laser power is conventionally 5mW or less. In addition, the photoimageable composition is combined with other components such as a quinone redox couple comprising 9,10-phenanthrenequinone and an acyl ester of triethanolamine (page 6, [0090]). The combination of these components forms an effective color forming composition when exposed to radiation. It would have been obvious to one of ordinary skill in the art to use the photoimageable process of Weed in the method of Kaufman because Weed teaches the imaging process while Kaufmann outlines the manner in which the process is used in the laser system for projecting a 3D image. The amounts of power the system projects and the amount of energy are at conventional levels. The amount of energy is directly related to the amount of power used by the projection system and so can be optimized.

Kuchta, in analogous art, teaches cyclopentanone based photosensitizers in a photopolymerizable composition (see Kuchta, col. 5, line 66). It would have been obvious to one of ordinary skill in the art to use the cyclopentanone based conjugated

sensitizer of Kuchta in the process of Weed because Weed's process requires a radiation-sensitive compound, which affects color change upon increase in temperature.

Response to Arguments

9. Applicant's arguments, filed 12/13/2007, with respect to the rejection(s) of claim(s) 1, 2 and 4 under 103(a), claims 11, 12 and 16-18 under 103(a) and claims 13 and 14 under 103(a) have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, new ground(s) of rejection are made herein.

10. Applicant argues that Kangas only teaches a release liner for protecting the adhesive prior to use.

Kangas teaches an adhesive material for the purpose of adhering photolabels and metal labels to substrates (col. 2, lines 8-12). A release liner is still a release layer. Applicant also discloses that the adhesive layer is a releasable adhesive layer. Therefore, the adhesive is capable of being removed. Therefore it would have been obvious to apply an adhesive to hold the material in place. Whether the material being adhered is a polymer or a metal is not relevant because both substrates have a layer adhered to it, therefore it is obvious to use an adhesive.

11. Applicant argues that Kaufman does not teach applying an imaging composition to a workpiece and applying a 3D image to the imaging composition to affect color change.

Kaufman teaches a laser projector for projecting a 3D image onto an object (abstract). The object is the imaging composition. Kaufman is used to show that the 3D image that is applied to the imaging composition may be applied to the imaging composition by a laser projector. It is well known to use laser projectors in imaging compositions to accurately position the 3D image to the workpiece. In the new 103(a) rejection, Weed is used to show an image applied to an imaging composition. The imaging composition of Weed is laser exposed to affect a color change on the imaging composition. In addition, figure 1 of Kaufman is the same as figure 1 of the instant application. Weed teaches the imaging process. Weed also teaches that the imaging compositions are applied to a workpiece, but not the process of applying the imaging composition to the workpiece. Kaufman is used to show the method of forming the image on a workpiece using a laser projector. Both Weed and Kaufman teach imaging compositions therefore motivation is sufficient to combine the references.

12. Applicant argues that figure 1 of Kaufman is not the same as figure 1 of the invention because Kaufman does not teach an imaging composition being applied to an object.

Kaufman teaches figures 1 and 8 are a laser projector and range finder, respectively. Kaufman may not specifically teach figure 1 as being used to apply an image to an imaging composition, however Kaufman teaches the same apparatus as figure 1 of the invention and discloses that figure 1 is a laser projector. Therefore, figure 1 of Kaufman (laser projector) is capable of applying a 3D image to an imaging

composition in Weed. Applicant also discloses that figures 1 and 2 of the invention are a laser projector and range finder, respectively.

13. Applicant argues that Kaufman teaches a method of measuring the distance between a laser source and a contour surface, not applying an imaging composition to the contoured surface.

Kaufman is used to show laser projection of a 3D image to the imaging composition in Weed. In the new 103(a) rejection, Weed is used to show an image applied to an imaging composition while Kaufman teaches the laser projector for positioning and applying the imaging composition to a workpiece (see Kaufman abstract).

14. Applicant argues that Kuchta and Weed do not makeup the deficiencies of Kaufman because Kuchta nor Weed teaches projecting a 3D image with a laser to an imaging composition to affect color change.

Kuchta and Weed are relied upon to show cyclopentanone based sensitizers and quinone redox couples in an imaging composition, respectively. Kuchta and Weed also teach exposing the color forming compositions to laser light. The cyclopentanone based sensitizers and quinone redox couple compounds are color-formers in radiation sensitive compositions. Kaufman teaches laser projection of radiation sensitive compositions. Although Kuchta nor Weed is directed to laser projection of the color-forming composition, laser irradiation is still contemplated by Kuchta and Weed.

15. Applicant argues that Parker teaches applying a holographic image to a workpiece to form aperatures and does not provide motivation to apply an imaging composition to the workpiece of Kaufman.

Parker teaches a method of making a pattern on a workpiece. The pattern may be a three dimensional holographic pattern (col. 2, lines 37-45). Although the pattern may be holographic, the method still comprises making a pattern on a workpiece and drilling holes into the workpiece by photoablation to form apertures (col. 8, lines 33-39). Therefore, it would follow to drill holes in the workpiece of Kaufman with a laser because Parker teaches laser ablating the workpiece to form apertures in thin membranes. The apertures in thin membranes are representative of placing holes in the workpiece, by which fasteners can be applied. Therefore, Parker is relied upon to show an image applied to a workpiece and laser irradiating the imaging composition to form aperatures. Since Kaufman teaches laser projection of an image on an object, it would follow that the laser projection would form aperatures.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Connie P. Johnson whose telephone number is 571-272-7758. The examiner can normally be reached on 7:30am-4:00pm Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Connie P. Johnson
Examiner
Art Unit 1752

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795